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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/829,786	04/10/2001	Jin Lu	US 010188	1884

24737 7590 05/12/2005

PHILIPS INTELLECTUAL PROPERTY & STANDARDS
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EXAMINER	
YIMAM, HARUN M	
ART UNIT	**PAPER NUMBER**
2611	

DATE MAILED: 05/12/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/829,786	LU ET AL.	
	Examiner	Art Unit	
	Harun M. Yimam	2611	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *21 November 2002*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-21* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-21* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *see Office Action*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Information Disclosure Statement

1. The information disclosure statements (IDS) submitted on 04/10/2001, and 11/21/2002 have been considered by the examiner.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 1-6 and 8-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bertram (US 2002/0064177) and Pinder (US 6,219,358).

Considering claim 1, Bertram discloses an apparatus for inserting new data packets into an incoming digital video transport stream containing a plurality of original data packets (paragraph 0009, lines 1-4), said apparatus comprising: an input buffer capable of storing said original data packets of said incoming digital video transport stream (631 in figure 6 and paragraph 0043, lines 1-5); and a video processor (controller—610 in figure 6) capable of retrieving said stored original data packets from said input buffer (CB1 coupled to the said input buffer in figure 6 and paragraph 0060, lines 1-4).

Bertram fails to disclose determining from said original data packets N data frequencies associated with N most recently received ones of said plurality of original data packets, wherein said video processor estimates from said N data frequencies an estimated data frequency of a plurality of next incoming original data packets and uses said estimated data frequency to determine an insertion rate at which said new data packets may be inserted into said plurality of next incoming original data packets.

In analogous art, Pinder discloses determining from said original data packets N data frequencies associated with N most recently received ones of said plurality of original data packets, wherein said video processor estimates from said N data frequencies an estimated data frequency of a plurality of next incoming original data packets and uses said estimated data frequency to determine an insertion rate at which said new data packets may be inserted into said plurality of next incoming original data packets (column 9, lines 11-18 and column 10, lines 5-17).

It would have been obvious to one of ordinary skill in the art to modify Bertram's system to include method and apparatus for determining an insertion rate of data packets, as taught by Pinder, for the benefit of determining the available capacity for insertion of data (column 9, lines 14-17).

Claim 2 is met by Bertram and Pinder. In particular, Bertram discloses that said video processor is further capable of identifying in said stored original data packets

replaceable data packets not associated with at least one elementary data stream comprising a program carried in said incoming digital video transport stream (paragraph 0038, lines 1-16).

Claim 3 is met by Bertram and Pinder. In particular, Bertram discloses that said video processor inserts said new data packets into said plurality of next incoming original data packets by replacing at least one replaceable data packet in said plurality of next incoming original data packets (paragraph 0038, lines 9-16).

Claim 4 is met by Bertram and Pinder. In particular, Bertram discloses that said video processor is further capable of identifying in said original data packets null data packets (paragraph 0038, lines 4-12).

Claim 5 is met by Bertram and Pinder. In particular, Bertram discloses that said video processor inserts said new data packets into said plurality of next incoming original data packets by replacing at least one null data packet in said plurality of next incoming original data packets (paragraph 0038, lines 9-16).

Claim 6 is met by Bertram and Pinder. In particular, Bertram discloses that said video processor estimates said insertion rate as a function of a summation of the M most recently received original data packets (the video processor has buffer control signals, CB1 and CB2, and more importantly, a switch control signal—CS, that

estimates the insertion rate according to the most recently received original data packets—paragraph 0047, lines 1-4 and paragraph 0048, lines 7-14).

Regarding claim 8, Bertram discloses a method for inserting new data packets into an incoming digital video transport stream containing a plurality of original data packets (paragraph 0009, lines 1-4), the method comprising the steps of: storing the original data packets of the incoming digital video stream (in buffers 631 and 632 of figure 6); retrieving the stored original data packets from the input buffer (CB1 coupled to the said input buffer in figure 6 and paragraph 0060, lines 1-4).

Bertram fails to disclose determining from said original data packets N data frequencies associated with N most recently received ones of said plurality of original data packets, wherein said video processor estimates from said N data frequencies an estimated data frequency of a plurality of next incoming original data packets and uses said estimated data frequency to determine an insertion rate at which said new data packets may be inserted into said plurality of next incoming original data packets.

In analogous art, Pinder discloses determining from said original data packets N data frequencies associated with N most recently received ones of said plurality of original data packets, wherein said video processor estimates from said N data frequencies an estimated data frequency of a plurality of next incoming original data packets and uses said estimated data frequency to determine an insertion rate at

which said new data packets may be inserted into said plurality of next incoming original data packets (column 9, lines 11-18 and column 10, lines 5-17).

It would have been obvious to one of ordinary skill in the art to modify Bertram's system to include method and apparatus for determining an insertion rate of data packets, as taught by Pinder, for the benefit of determining the available capacity for insertion of data (column 9, lines 14-17).

Claim 9 is met by Bertram and Pinder. In particular, Bertram discloses that said video processor is further capable of identifying in said stored original data packets replaceable data packets not associated with at least one elementary data stream comprising a program carried in said incoming digital video transport stream (paragraph 0038, lines 1-16).

Claim 10 is met by Bertram and Pinder. In particular, Bertram discloses that said video processor inserts said new data packets into said plurality of next incoming original data packets by replacing at least one replaceable data packet in said plurality of next incoming original data packets (paragraph 0038, lines 9-16).

Claim 11 is met by Bertram and Pinder. In particular, Bertram discloses that said video processor is further capable of identifying in said original data packets null data packets (paragraph 0038, lines 4-12).

Claim 12 is met by Bertram and Pinder. In particular, Bertram discloses that said video processor inserts said new data packets into said plurality of next incoming original data packets by replacing at least one null data packet in said plurality of next incoming original data packets (paragraph 0038, lines 9-16).

Claim 13 is met by Bertram and Pinder. In particular, Bertram discloses that said video processor estimates said insertion rate as a function of a summation of the M most recently received original data packets (the video processor has buffer control signals, CB1 and CB2, and more importantly, a switch control signal—CS, that estimates the insertion rate according to the most recently received original data packets—paragraph 0047, lines 1-4 and paragraph 0048, lines 7-14).

4. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bertram (US 2002/0064177) and Pinder (US 6,219,358) and further in view of Firoiu (US 6,820,128).

With regards to claim 7, Bertram and Pinder disclose that the video processor (controller 610 in figure 6) controls the switch—620 to determine an insertion rate (paragraph 0047, lines 1-4 and paragraph 0048, lines 7-14).

Bertram and Pinder fail to disclose that each of said M most recently received original data packets in said summation is scaled by a weighting factor, a(k).

In analogous art, Firoiu discloses that the data packets are scaled by a weighting factor (column 8, lines 24-26).

It would have been obvious to one of ordinary skill in the art to modify the combined system of Bertram and Pinder to include a weighting factor, as taught by Firoiu, for the benefit of defining the rate of withdrawing data packets from their respective buffers (column 8, lines 24-26).

5. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bertram (US 2002/0064177) and Pinder (US 6,219,358) and further in view of Firoiu (US 6,820,128).

With regards to claim 14, Bertram and Pinder disclose that the video processor (controller 610 in figure 6) controls the switch—620 to determine an insertion rate (paragraph 0047, lines 1-4 and paragraph 0048, lines 7-14).

Bertram and Pinder fail to disclose that each of said M most recently received original data packets in said summation is scaled by a weighting factor, a(k).

In analogous art, Firoiu discloses that the data packets are scaled by a weighting factor (column 8, lines 24-26).

It would have been obvious to one of ordinary skill in the art to modify the combined system of Bertram and Pinder to include a weighting factor, as taught by Firoiu, for the benefit of defining the rate of withdrawing data packets from their respective buffers (column 8, lines 24-26).

6. Claims 15-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bertram (US 2002/0064177) and Shimomura (US 6,473,858) and in view of Pinder (US 6,219,358).

Considering claim 15, Bertram discloses an apparatus for inserting new data packets into an incoming digital video transport stream containing a plurality of original data packets (paragraph 0009, lines 1-4), said apparatus comprising: an input buffer capable of storing said original data packets of said incoming digital video transport stream (631 in figure 6 and paragraph 0043, lines 1-5); and a video processor (controller—610 in figure 6) capable of retrieving said stored original data packets from said input buffer (CB1 coupled to the said input buffer in figure 6 and paragraph 0060, lines 1-4).

Bertram fails to disclose a television broadcasting system comprising: a plurality of network video sources, each of said plurality of network video sources capable of transmitting at least one digital video transport stream to another facility in said television broadcast system. Bertram further fails to disclose determining from said original data packets N data frequencies associated with N most recently received

ones of said plurality of original data packets, wherein said video processor estimates from said N data frequencies an estimated data frequency of a plurality of next incoming original data packets and uses said estimated data frequency to determine an insertion rate at which said new data packets may be inserted into said plurality of next incoming original data packets .

In analogous art, Shimomura discloses a television broadcasting system (column 8, lines 59-61) comprising: a plurality of network video sources, each of said plurality of network video sources capable of transmitting at least one digital video transport stream to another facility in said television broadcast system (column 2, lines 23-28).

It would have been obvious to one of ordinary skill in the art to modify Bertram's system to include a television broadcasting system with a plurality of video sources capable of transmitting at least one digital video transport stream, as taught by Shimomura, for the benefit of providing a particular user or groups of users with a plurality of data streams (column 2, lines 22-40).

Bertram and Shimomura fail to disclose determining from said original data packets N data frequencies associated with N most recently received ones of said plurality of original data packets, wherein said video processor estimates from said N data frequencies an estimated data frequency of a plurality of next incoming original data packets and uses said estimated data frequency to determine an insertion rate at

which said new data packets may be inserted into said plurality of next incoming original data packets.

In analogous art, Pinder discloses determining from said original data packets N data frequencies associated with N most recently received ones of said plurality of original data packets, wherein said video processor estimates from said N data frequencies an estimated data frequency of a plurality of next incoming original data packets and uses said estimated data frequency to determine an insertion rate at which said new data packets may be inserted into said plurality of next incoming original data packets (column 9, lines 11-18 and column 10, lines 5-17).

It would have been obvious to one of ordinary skill in the art to modify the combined system of Bertram and Shimomura to include a method and apparatus for determining an insertion rate of data packets, as taught by Pinder, for the benefit of determining the available capacity for insertion of data (column 9, lines 14-17).

Claim 16 is met by Bertram, Shimomura, and Pinder. In particular, Bertram discloses that said video processor is further capable of identifying in said stored original data packets replaceable data packets not associated with at least one elementary data stream comprising a program carried in said incoming digital video transport stream (paragraph 0038, lines 1-16).

Claim 17 is met by Bertram, Shimomura, and Pinder. In particular, Bertram discloses that said video processor inserts said new data packets into said plurality of next incoming original data packets by replacing at least one replaceable data packet in said plurality of next incoming original data packets (paragraph 0038, lines 9-16).

Claim 18 is met by Bertram, Shimomura, and Pinder. In particular, Bertram discloses that said video processor is further capable of identifying in said original data packets null data packets (paragraph 0038, lines 4-12).

Claim 19 is met by Bertram, Shimomura, and Pinder. In particular, Bertram discloses that said video processor inserts said new data packets into said plurality of next incoming original data packets by replacing at least one null data packet in said plurality of next incoming original data packets (paragraph 0038, lines 9-16).

Claim 20 is met by Bertram, Shimomura, and Pinder. In particular, Bertram discloses that said video processor estimates said insertion rate as a function of a summation of the M most recently received original data packets (the video processor has buffer control signals, CB1 and CB2, and more importantly, a switch control signal—CS, that estimates the insertion rate according to the most recently received original data packets—paragraph 0047, lines 1-4 and paragraph 0048, lines 7-14).

7. Claim 21 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bertram (US 2002/0064177) and Shimomura (US 6,473,858) in view of Pinder (US 6,219,358) and further in view of Firoiu (US 6,820,128).

With regards to claim 21, Bertram, Shimomura, and Pinder disclose that the video processor (controller 610 in figure 6) controls the switch—620 to determine an insertion rate (paragraph 0047, lines 1-4 and paragraph 0048, lines 7-14).

Bertram, Shimomura, and Pinder fail to disclose that each of said M most recently received original data packets in said summation is scaled by a weighting factor, a(k).

In analogous art, Firoiu discloses that the data packets are scaled by a weighting factor (column 8, lines 24-26).

It would have been obvious to one of ordinary skill in the art to modify the combined system of Bertram, Shimomura, and Pinder to include a weighting factor, as taught by Firoiu, for the benefit of defining the rate of withdrawing data packets from their respective buffers (column 8, lines 24-26).

Conclusion

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Harun M. Yimam whose telephone number is 571-272-7260. The examiner can normally be reached on M-F 8-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chris Grant can be reached on 571-272-7294. The fax phone number for the organization where this application or proceeding is assigned is 571-273-6000.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

HMY

HAI TRAN
PRIMARY EXAMINER